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ABSTRACT

The report describes preliminary results of a study investigating the merits of teaching five severely and multiply handicapped preschoolers to take the initiative during social interaction with an adult using signals/actions already in his/her repertoire. Such initiative was theorized as fundamental to the development of communicative, intellectual, and social skills. A step-by-step shaping procedure of child interaction episodes is described, made up of finding the appropriate situation and designing the interaction pattern. Direct observation and caregiver reports on the approach, indicating promising improvements in communicative skills, moods, and outside interaction, are summarized. Case study material illustrates the use of forms developed to systematically describe the social interaction as it develops between the child and another person. (CL)

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GIVING THE CHILD THE INITIATIVE DURING SOCIAL INTERACTION.

A MODEL FOR EARLY INTERVENTION PROGRAMS.

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This report sums up some of the preliminary results from the work with a pilot-group of 5 children with varying degrees and forms of handicap. This is part of a longer project aimed at developing and evaluating new principles for early intervention with severely and multiply handicapped preschool children.

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THE CHILDREN:

There are 5 children in the pilot-group, three girls and two boys with an age-range from 3½ to 6½ years: THree of the children have severe CP (spastic quadriplegia), of which one was acquired as a result of encephalitis at almost 2 years of age; while two have syndromes associated with severe mental retardation but without any major physical malformations or motor malfunctioning. None have known sensory deficits. The children are: Sam, boy, 3½, Cri-du-chat; Skage, boy, almost 7, severe innate CP; Solveig, girl, 6½, Cornelia de Lange; Sigrid, girl, 4, severe acquired CP; Sara, girl, 5, severe innate CP. At the onset of the intervention, all of the children were characterized by A) severe deficits in their communication; and B) minimal involvement in play-activities. Accordingly, the children very seldom, if ever, took initiative during social interaction with an adult, or explored their surroundings on their own. This was especially true for the children with CP, who had all minimal control of muscles other than eyes and head, and therefore could neither move nor sit on their own. The two other children (Sam & SOlveig) were mobile; Solveig being able to walk and run, and Sam to crawl. Both were able to manipulate objects with their hands. Despite this, neither of them engaged in appropriate play-activities. Both would mouth play-objects. Sam preferred, however, objects with wheels he could spin. He could sit and spin the same toy for hours. Both were very difficult to engage in play-activities together with an other person.

Two of the children (Sigrid & Solveig) had some receptive communicative skills. Solveig could understand a few simple instructions indicating the start of well-known routines (e.g. meal times). One of her greatest problems was, however, resistance to complying with adult instructions. Sigrid could, during periods with low spasticity, indicate understanding of spoken messages

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by smiling or sometimes displaying facial gestures interpreted as "yes/no". For the other children there were at best suspicions from their caregivers that they could show signs of recognition of familiar persons, places or events spoken of to them by their caregivers. All display emotions through different channels, also sometimes by using sounds. None of the children had any communicative words, nor any functional use of sounds, nor of expressive gestures (with the exception of signs of likes/dislikes interpreted as "yes/no"). The only exception to this was Solveig. She could vocalize while streching her hand out toward a wanted object (e.g. water). She could also vocalize while taking the adult's hand in hers and leading it toward a desired object or activity (e.g. toward own body to be caressed). In the majority of such events, the gesture would be given without any vocalization.

With some variation, all of the children enjoyed close physical contact or vigorous physical play with an adult, especially with caregiver. All had very limited self-care skills. All children with CP had to be given both food and drink. Sigrid had at times great problems taking in the necessary amount of food and drink, but had so far avoided tube-feeding. Sam and Solveig were able to drink from cup on their own, and help themselves to pieces of bread. Both had begun learning to eat with a spoon.

All of the children either had received or were still receiving training by physical therapists. With the exception of Sam, no other forms of intervention had been successfully implemented. Sam was receiving intervention by a speech therapist aimed at improving his play-activities, but the results of this so far were uncertain. There had been attempts to involve Sigrid in a communication-training program, but this was discontinued because of Sigrid not responding appropriately to the procedures. Some of the other children had been assessed by other professionals to be "too low functioning" to be able to benefit from systematic psychosocial intervention. For one child it had been recommended that communication training should NOT be started.

INTERVENTION-RATIONALE:

The central hypothesis of this program is that the first step of any intervention program with children at probable or established risk for later psychosocial problems is to teach the child to take the initiative during social interaction with an adult through signals/actions already in his/her repertoire. It is hypothesized that experiencing initiative when

intellectual, and social skills. Accordingly, there are NO prerequisite skills that the child has to master before these interventional strategies may be started. NO child is too young or functioning at a too low level to be able to benefit from these procedures. The child's age and degree and type of handicap does NOT determine whether he/she should be included in such a program or not. The only exception is children with no need for any intervention due to normal psychosocial development. This does not imply that those factors are of no relevance to the program. They will be of great importance to the rate of learning that may be expected. They will also be of great influence to the choice of interventional strategies.

Almost every child, regardless of degree of handicap, has some way of calling the caregiver's attention to himself/herself. This may be done through behaviors indicating specific emotions such as discomfort or pleasure, e.g. through crying, vigorous physical activity, smiling. In this sense it may be said that most children may initiate the onset of an interaction with an adult. But once the interaction with multiply handicapped children has been started, the initiative is taken over by the adult. The child may be given som control over what happens during the interaction: the adult may ask the child questions at different steps: "Do you want more / that we shall do it again?" or offer the child a new "turn" (present a new spoonful or a cup). The adult may also be sensitive to how joyfully the child responds to the different activities and modify the next response/activity thereafter. But basically, the initiative lies with the adult: He/she decides the exact timing of when the next interactional "episode" is to start, and also, at least most of the time, which response is to be given next. The reason for this is simple to understand: Most severely, multiply handicapped children have few means of indicating what they want to happen during an interaction, or when it is to happen. These children do not take the initiative during interaction unless explicitly given them by their partner.

STEP 1: The focus of this first step in the intervention program is therefore to secure the child the highest possible degree of initiative over what happens once the interaction has started: First, the child is given the initiative over when an interesting or pleasant event/activity is to be repeated by the adult partner, and also, if possible, how the response is to be given: E.g. a sound emitted by the child may determine when he/she is to be stroken by the adult; variations in the child's sound may decide how the child is to be stroken - a short, soft sound results in a short, light stroke; a long, loud sound results in a long, heavy stroke, etc.

At this step, the most appropriate interpretation of the function which the child is about to learn is: "I want / want more". In the beginning, the child is unconscious of this interpretation of his/her behavior. The most crucial hypothesis of this program concerns the manner by which the child is to become conscious of the meanings of his/her behavior:

> It is believed that the child will learn the meanings of his/her behaviors (i.e. learn to communicate through specific behaviors) by experiencing that his/her surroundings respond to those behaviors as if he/she was communicating through them. This over-interpretation of the child's behaviors by his/her surroundings has to start before the child is conscious of the fact that he/she is able to communicate.

STEP 2: The next step is to give the child a means of taking the initiative for deciding the content of his/her interaction with an adult: "I want A / want more of B". This means giving him/her the initiative over choosing which response he/she is to receive. This can be done by the adult responding to the combination of two different behaviors: A sound emitted by the child may tell the adult when the child wants something, while the focus of the child's gaze may decide what the child is given. This step may also be implemented by giving different responses to different variations in the child's behaviors: The act of reaching is taken as a signal for giving the child something; the direction of the reaching may decide what the child receives from the adult. During caressing, an utterance with only vowels may be responded to with only adult imitation of the sound; an utterance containing consonants (i.e. babble) may lead to stroking of the child's body.

STEP 3: When these two steps have been accomplished, the first steps in teaching the child a specific communication system may begin. The first procedure is to learn the function of symbols. It is hypothesized that this may be acquired most readily if the child even at this stage still may make use of behaviors already in his repertoire. This will reduce adult-directed training to a minimum. If the child at this point in time has great variations in his/her babble-sounds, attempts may be made to attach specific meanings to specific sounds: E.g. a child who had learned to direct the adult's caressing through her vocalizations, emitted the following chain of "meaningful babble-sounds" from time to time during the interaction: "Dukken-dukken-dukken" (i.e. "The-doll-the-doll-the-doll" in Norwegian language). No dolls had been used during these interactions. But now, whenever this specific

at that moment and brought forth a specific hand-puppet. The adult let this doll play with the child for 10-15 seconds, before it disappeared again. This doll was never used in interaction with the child or given to her unless these "words" were spoken. This procedure is especially relevant if one hopes to teach the child the use of vocal communication. For many of the children it may be necessary to consider nonvocal alternatives or substitutes. It is suggested that indicating toward pictures should be used as a first step for both major forms of nonvocal communication (i.e. gestural and symbolic communication). The child who has learned to indicate the content of his/her wish by looking or streching toward the desired objects will now learn to indicate toward pictures of the desired objects. This is done by gradually substituting the pictures for the objects in the situations where the interaction is naturally taking place.

The use of pictures seems most promising in situations where the child is to communicate the wish for specific objects. During social interacton involving only "body-to-body play" the introduction of pictures is often felt as a disturbing element. In these situations, the child's communication is more in terms of want for specific activities performed by the adult. Here, a more appropriate procedure is to make use of movements, gestures or the shaping of signs from the deafs' sign language. This requires at least some muscular control. If this is not possible one should exploit the variations in the child's vocalizations as far as possible. How to teach communication to children with severe physical handicaps and severely limited variations in sound-production during such interactions is still unresolved. One untried possibility might be to make use of electronic switches to make the few movements under child control more noticeable.

THE INITIAL SHAPING OF CHILD-INITIATED INTERACTION EPISODES:

The steps in building up child-initiated interactions are as follows:

STEP 1: Finding the situation. The situations that made up the child's daily routines were observed to find situations that were characterized by:

a) the adult is acting on the child in a way that the child likes;
b) the child shows some own activity (preferably vocalizations or self-controlled movements).

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The two situations chosen so far in this program have been mealtime and relaxed interaction where the adult is caressing the child.

STEP 2: Designing the interaction-pattern. A few central adult-behaviors are chosen for the specific intervention, e.g. giving the child food or drink; stroking parts of the child's body. These responses/ activities should be

a) something the child likes - preferable the most exciting response/ activity in that particular situation;
b) something the child is able to register every time. The sole presentation of pictures or playobjects, may not always be noticed by a child who often, voluntarily or involuntarily, turns away his/her eyes or head;
c) something that can be repeated fairly often within a realtively short period of time. Some children may enjoy being read to or going for a walk, but these activities may last too long to enable many repetitions.

These adult-responses/activities whould now be given to the child only as an answer to specially targeted child behaviors, such as sound, streching of hand, gaze-focus. The child-behaviors should

a) preferable occur fairly often in the chosen situation;
b) be easy to activate by the adult - this is especially important in those cases where the adult's response is something which is important for the child to get, e.g. food or drink. In these situations it should be possible for the adult to guarantee child success by activating the targeted child-behavior if it is not emitted spontaneously.
c) be different from the child's usual way of responding to the adult's response/activity; i.e. it should be possible for the child to respond to what the adult does, without being interpreted as wanting to experience the same thing once more. Accordingly, movements of the lips should not be used as a signal for "more food" since the child will regularly respond in this manner upon receiving food in his/her mouth.
d) have a distinct onset and end. A distinct onset is necessary to make it easy for the adult to know when to respond. A distinct end (preferably after a relatively short time) is necessary for the adult to know when one signal ends and the other starts. Vocalizations are preferable behaviors. Focus of gaze is more difficult to use, because the child may continue to look at his dish with food while chewing the last spoonful. This makes it difficult for the adult to know when to offer more food.

e) be easily noticed by the child. With hearing children vocalizations are the prime target. Learning the meaning of a gaze-signal may be more difficult, because the child will not always look at what the adult thinks he/she is looking at. This will make the adult's responding appear less consistent to the child. Many children will, in many situations be less sensitive to their own undirected movements. One way to make the child more aware that the adult is using his/her movements as signals for acting, may be to introduce electronic switches that make a sound or turn on a light in response to the child's movements.

NB: Measures should be taken to ensure that there are several adult-responses not included in the intervention strategy. This will give the child some positive interaction-experiences even if he/she remains totally passive. If the child does not enjoy him/herself also when remaining passive, this will often reduce the chances of him/her emitting the targeted behavior again. Thereby the wanted interactional episode will not be repeated.

When preparing for these interventional strategies, special consideration has to be given to the arrangements of the situation; i.e. both how the child and his/her partner are positioned, and how the physical environment is organized. When deciding on these arrangements, two separate factors have to be considered: To what degree the arrangements make the child responsive to the adult's responses/acitivities; and to what extent they make it possible for the child to emit the targeted child-behavior(s). During mealtimes for children with CP a position is usually found for the child which makes it as easy as possible for him to take in the food and drink, while using the most appropriate muscles in doing so. In this program it is of equal importance to find a position that enables him/her to vocalize or focus on the food/drink. Sometimes these two considerations will be in conflict, and a compromize has to be found.

Ideally, the child-behaviors targeted in this program should be emitted spontaneously from the very beginning. They should not be triggered by specific adult-behaviors such as questions, offers, etc. Instead, attempts are made to create situations where observations have shown that chances are greatest for these behaviors to be seen. For example, if adult caressing is to be brought under the control of child-vocalizations, intervention might start right after a mealtime, on a matress on the floor with the adult lying alongside the child smiling and talking to him/her; if feeding is to be brought under the control of child-streching, the fook and drink are placed

easily visible on the table in front of the child, but just out of his/her reach; if a similar interaction should be controlled by child-sound, the adult could caress the child, talk (without asking questions about the meal) and smile to him/her with the food and drink easily visible. In these situations, whenever the targeted child-behavior is emitted, regardless of the more immediate contect, the adult gives or offers the child the chosen adult-response.

Experience has shown that at the onset of each new intervention strategy the child needs help to get started. This is done by having the adult use the strategies which is known from observations to make the child emit the targeted child-behavior. In this way the child will get his/her first experiences that his/her behavior leads to an interesting adult response. However, as long as the adult makes use of the activation strategies, the interactional episodes will not be truly child-initiated. Therefore, the adult must gradually fade away this extra help as soon as possible.

CASE-REPORTS FROM THE PILOT-GROUP:

Four of the children have been involved in systematic intervention strategies for about one year. One (Solveig) has been in the program for only four months. No systematic evaluation procedures have been used so far. The following findings are therefore based on unsystematic, direct observation and caregiver-reports.

The results so far have been very promising. Of the five children, four (all except Sigrid) have shown observable improvements that are likely to be at least partially attributable to the specific strategies used. Three general findings have been seen:

1. The children's communicative skills have been improved. All 4 children have learned to take the initiative during interaction with an adult: They have learned to communicate when a wanted adult response should be repeated. All 4 have also learned, although to a variable degree, to indicate which response the adult should give. One child (Solveig) has learned, and another (Sara) is about to learn to communicate through the use of symbols (through pictures and spoken words, respectively).

2. During interaction, the four children's mood has improved. They have become more cheerful, they laugh and smile more, and vocalize more. They are also more responsive to things the adult say or do. One child

(Solveig) who previously would not respond to adult commands, now will do what she is told to do, if she is first allowed to have the initiative in the actual situation. (This skill is still limited, however.) The two children with CP who have benefitted from the intervention (SKage and Sara) have shown signs of improved muscular control during interaction. These improvements may partially, but not fully be due to physical therapy. The delivery of such therapy to one of the two (Skage) was, however, very irregular and rather unsatisfactory during the past year.

3. Outside interaction, the 4 children have become more demanding. They have seemed less satisfied with being left alone. With Solveig, the changes have been most marked. She was previously a very restless girl that needed constant supervision to prevent her from getting into trouble or from destroying things in the room. Now her "restlessness" has become more directed. She more systematically performs those activities that she knows will get her the attention from an adult.

More detailed descriptions of the children's improvement are given on some forms that are developed as part of this project. The aim of the forms is to provide a means for systematically describing the social interaction as it develops between the child and another person. Special consideration is given to trying to describe the sequence in the interaction, i.e. who starts out each new "episode" - who takes the initiative.

Three examples of these forms are enclosed. They are read row by row (horisontally) from left to right, starting at the top of the page.

SKAGE: The forms from the work with Skage show how he gradually has been given the possibility of communicating both when he wants to be fed (by sound) and what he wants to receive (by gaze). Before intervention, he was fed with minimal self-control. At that time he was very unresponsive and feeding was at times problematic. Now he decides for himself how to be fed. This has led to the discovery that he has specific and strong likes and dislikes: If served fish, he doesn't utter a sound. But if his favorite desert is served, he vocalizes at once after swallowing the last spoonful. His communication is especially interesting during evening meals at home: Here, he will use his sound and gaze in a very controlled manner, using different sounds depending on where he looks. This gives a strong impression that he now knows that a sound uttered when looking at drink or food means "I want to be fed", while sounds emitted when looking elsewhere have a more purely social function. In the former context, the sound is a rather strong,

monotonous "demand"-sound, while in the latter more varied, babble-like vocalizations are heard. This interpretation is supported by the observation that he has become a lot more responsive to being talked to. He will now recognize and vocalize back to his parents' voices even when hearing them on the telephone. From being a child who was very difficult to interact with at all, Skage is now a communicating and much more responsive boy. (Some suggestions for future intervention-steps are also included on Skage's forms.)

SAM: Sam also has learned to take the initiative over his own feeding. The first step in his program was restricted to the cup. He signalled his want for more to drink by hand-streching while saying "Na". The choice of "Na" as a communicative signal resulted in some discussion. His parents were at first reluctant to accept this procedure, because they feared that Sam would learn that "Na" meant "water" or "milk" (i.e. "vann/melk" in Norwegian language). This would be a lable too unusual to be acceptable. This interpretation would also be too limiting, since this sound was uttered in many different contexts, also at time when it was evident that Sam was not thirsty.

These discussions revealed how important it is to work explicitly with how the adults are to interpret the signals to be used in such a program. In the case of Sam, it was finally agreed upon that the most accurate interpretation of the "Na"-sound was "I want / want more", and not in terms of the content of his wish (what he wanted). The latter was communicated through a gesture - his hand-reaching. This interpretation was far more acceptable to the parents, particularly because it did not limit the use of this signal to one specific context. Sam's own behavior also supported this more geeral interpretation: If he said "Na" while streching toward his cup, but without receiving anything to drink, he would repeat his sound more vigorously or become upset. If, however, the same sound was uttered with Sam's attention directed elsewhere, he did not react when not given anything to drink.

The most dramatic observation with Sam was done when Step 3 was introduced (see the enclosed form). Step 3 involved giving Sam the initiative also over when he was to receive more food to eat. He had already learned to decide when to get more to drink. He had previously learned to eat with spoon with somewhat varying degree of help from an adult. This step was introduced in response to increasing problems during the meals. This was in sharp contrast to earlier periods when mealtime was among the most pleasant interactions Sam spent together with an adult. More interesting, it was

also in sharp contrast to how he behaved when he asked for something to drink: Even when the problems during mealtime were at their greatest, Sam continued to communicate clearly and appropriately whenever he wanted water. He calmed down, streched out his hand and said "Na". In this situation he would also tolerate instructions from the adult. When he was done with drinking, the problems continued as before. This led us to hypothesize that one contributing factor to his misbehaving when offered food, was that this was done on the adult's initiative. Step 3 was introduced to give Sam the initiative. Since the problems were so severe, plans were made for a gradual introduction of this step over several weeks. The first attempt was made on a Friday, at the end of a tiring week, a point where no "spontaneous improvements" could be expected. Despite all this, Sam caught on to the new routines within only a few minutes, and that mealtime turned out to be the most relaxed and cuddling mealtime for weeks with almost all the usual problems disappeared. The only aspect that may explain this sudden and dramatic change in behavior was the increased initiative given to Sam during this specific kind of social interaction.

SARA: With Sara, intervention has so far been restricted to a situation where she experienced relaxed interaction with an adult. The adult-response that was targeted was stroking of the child which should be initiated and controlled by Sara's vocalizations. During the first step, any sound was accepted as signal for stroking. After a period this was restricted to sounds containing consonants (babble). All the time, the sounds' duration and loudness determined the length and strength of the stroke. Over time, Sara uttered sounds more frequently and with more variations. A specific strategy was introduced to take care of one specially interesting chain of babble-sounds: "Dukken-dukken-dukken" (Norwegian for "The-doll-the-doll-the-doll"): Every time this chain was emitted, regardless of context, a puppet-doll was brought forth and made to play with Sara's face for 10-15 seconds. To make this possible, the adult responsible for Sara's caregiving always carried this doll in her back-pocket. The doll was never used except when "asked for" by Sara through her babble-chain. In most instances, Sara showed many signs of enjoying this particular "game". Towards the end of the semester, there even were some indications that she was beginning to understand the meaning of her babble: At two occasions, she said these words as she discovered the doll in the adult's pocket when the adult turned her back to Sara. At both these instances, Sara had been quiet until this happened.

SOLVEIG: (No forms included.) Solveig was already able to take the initiative during interaction when she was included in the program. An interesting development with her has been the introduction of communication thorugh the use of pictures. This has been most successfully done in a situation where she wants to ask for water outside mealtimes. She has developed a proficiency to communicate this wish to the adult by taking the adult by hand to the faucet in the kitchen, streching out toward the faucet while vocalizing (the latter was done only it the adult did not respond immediately). The interventional strategy consisted of attaching a photo of a glass with water by the faucet. Whenever the child indicated her wish for water in her usual manner, the adult would take Solveig's hand and make it touch the picture before fulfilling her wish. Within a few days, Solveig started touching the picture on her own, especially if the adult waited with giving her water. Two weeks after this was started, Solveig showed that she had learned what she was expected to do: A 12-year old friend (Ann) of her sister visited Solveig's house. Ann was totally ignorant of the ongoing intervention. During the visit, Solveig once took Ann by her hand and led her to the kitchen where nobody else were at that time. Ann later told Solveig's parents what had happened: Solveig led her to the faucet, streched out her hand and vocalized, but Ann did not understand the message. In response to this, Solveig then put two fingers on the picture and uttered a "demand"-sound: "Æ-æ-æ". This Ann understood at once, and gave her a glass of water. This incident is important when compared to the findings from the early steps in ordinary communication-training with speechless children. One commom difficult problem facing the therapist has been teaching the child to make use of his/her learned behaviors in new situations and with new persons. Solveig made such a generalization almost immediately.

Attempts have also been made to teach Solveig to comunicate through pictures during mealtimes whenever she wants a new helping of food or drink. The pictures are placed on the table in front of her seat. Progress in this situation has been a lot slower. The discrepancy in learning-rate in these two contexts is a bit puzzling. One possible reason for this might be that she is used to communicate to get water in the kitchen. During mealtime, however, she is used to receiving food and drink without having to ask for it. The mealtime-strategy therefore involves increased demands on her: She now has to ask to get what she wants. Observations of her behavior at the tabble show that she has made many different attempts to avoid this new demand.

Solveig has also developed good skills in steering the activities during a daily period spent alone together with a special teacher. She uses different ways of placing her body in relation to the adult, as well as different body-movements to communicate to the adult which game or play-activity she wants to engage in. The teacher was given instructions to wait with starting or repeating any game until Solveig had given a specific signal. This procedure resulted in Solveig using her signals more frequently, while showing more pleasure during interaction. But it also resulted in Solveig systematically trying out new signals to design new variations of well-known games or activities. In other words, she communicated more frequently and in more varied ways. The next step which is to start now, is to introduce the use of signs taken from the deafs' sign-language. It is considered crucial to the learning process, however, that the initiative still lies with Solveig. This is taken care of in the following manner: When Solveig communicates her wish for a specific activity through her "body-signals", the adult postpones for a few seconds the fulfillment of her wish. First, the adult takes Solveig's hands in hers and makes the appropriate sign with Solveig's hands, while answering her request verbally. When the sign has been made, the activity is performed. The first times this was attempted, Solveig protested having her hands put through the movements of the sign. She how accepts this routine. The next step is to gradually fade away this "adult-prompting". Throughout this whole procedure, Solveig is <u>never</u> helped to make a sign, <u>except</u> when she has first tried to convey the same message through a "body-signal".

In spite of these promising experiences, many problems still remain. With <u>Sigrid</u>, we have so far been unsuccessful in designing child-initiated interactions. First and most importantly, it has been difficult to find a behavior she can use with some regularity, due to her ever recurring spasms. Second, it has also been difficult to find an interaction-situation with specific adult responses which Sigrid enjoys on a regular basis (what is fun the one day is not fun the next). Another "difficulty" is that most of her caregivers feel that she is able to communicate through gestures meaning "Yes" and "No". This form of communication is, however, totally dependent on adult-initiative: The adult has to ask a question or give an offer before Sigrid can make herself understood. Child-initiated interactions have to be based on other signals. This has to be signals that at the present have no clear meaning to Sigrid. Many of Sigrid's caregivers are reluctant to interact with her in response to "adult-chosen" child-signals. This must

necessarily lead to situations to begin with where Sigrid will not be able to control the adult as well as when she is allowed to use her Yes/No-gestures. Experience with Sigrid shows that she will very easily become very spactic when frustrated or not understood. Usually, most pleasurable interactions with her are impossible when she is frustrated or spastic.

Another significant, unresolved problem is how to get the children interested in play with toys. All of the children are difficult to engage in any play-activities including objects. Either they show minimal interest in toys, or they are unresponsive to any adult-instructions or invitations.

This semester, the problems with Sigrid and with increasing toy-interest will be given top priority.

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OBSERVATION/REGISTRATION OF THE CHILD'S SOCIAL INTERACTION WITH ADULT / OTHER IN DAILY SITUATIONS. PAGE

Developed by Helge Kr. Smebye, Ph.D, Institute of Psychology, Univ. of Oslo, Norway, 1984. © H.Kr. Smebye

Name: SKAGE, 6 YRS ♂ Date: Nov 1983 Situation: COMMUNICATION-LEARNING AT MEALS - 1 Obs.: SEV.

	I. ARRANGEMENTS: Special positions, organization of environment	II. ADULT / OTHER: ACTIVATION Question/Prompt/Disturbance	III. CHILD: SIGNAL/ACTION Word/Sound/Gaze/Movement	IV. ADULT / OTHER: REACTION Caregiving/Response to child	V. CHILD: ANSWER Response to A/O's reactio
BASELINE:	Child (C) and adult (A) sit facing eachother; C in his specially designed chair; food & drink (f&d) on table to one side	A lifts up cup/spoon and offers C f/d, asks: 'Do you want some?'	C opens mouth (this is often rather delayed)	A gives C f/d	Takes inn f/d, severa problems observed: rejects f/d; bites th spoon; chokes on f/d
PREP. FOR STEP 1:	As above	A waits with the offering of f/d - tries instead to get C to make a sound	Whenever any sound is emitted (except crying) regardless of degree of adult-activation or of food already in mouth ..	.. answers C: 'Oh yes, you really want more f/d!'; gives C f/d at once regradless of situation, but does not force anything on him	To begin with C's rea tion as before - but gradually improves
STEP 1: SOUND	As above	Creates a situation as pleasant as possible, but without trying to get C to emit a sound, nor asks about f/d	Whenever the sound comes on C's own initiative ..	.. answers and gives f/d as above - may also give praise or hug	C consumes f/d easier clearly shows that he is prepared to receiv f/d after sound is emitted. Appears more satisfied
PREP. FOR STEP 2	Food and drink are placed on each side of C on small tray attached to C's chair; A faces C on other side of tray		When C emits sound without looking at f/d ...	.. A answers C and touches what C is believed to desire, but postpones the giving of f/d ..	
		A tries first to get C to look at f/d, e.g. by moving the object, or making a sound close to it	If C looks at f/d within 5 sec after sound If C does not look quickly enough	A answers, praises and gives C at once No f/d is offered, but the interaction is continued as pleasantly as possible	To begin with the meal takes longer ti because it often is difficult to direct C's gaze
STEP 2: SOUND + GAZE:	F/d on tray as above	A no longer directs C's focus	If C emits sound when looking at f/d ... If C emits sound and looks at A or elsewhere	.. A gives C what he is looking on .. A responds with chat and hug	C uses different sou in the two contexts: 'demand' vs. 'play'- sounds. The meal ap- pears more pleasant

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OBSERVATION/REGISTRATION OF THE CHILD'S SOCIAL INTERACTION WITH ADULT / OTHER IN DAILY SITUATIONS. PAGE

Developed by Helge Kr. Smebye, Ph.D, Institute of Psychology, Univ. of Oslo, Norway, 1984. © H.Kr. Smebye

Name: SKAGE, 6 YRS ♂ Date: Nov 1983 Situation: COMMUNICATION-LEARNING AT MEALS - 2 Obs.: SEV

	I. ARRANGEMENTS: Special positions, organization of environment	II. ADULT / OTHER: ACTIVATION Question/Prompt/Disturbance	III. CHILD: SIGNAL/ACTION Word/Sound/Gaze/Movement	IV. ADULT / OTHER: REACTION Caregiving/Response to child	V. CHILD: ANSWER Response to A/O's reactio
PREP. FOR STEP 3	Photos of f/d are placed where objects (f/d) were - objects gradually moved closer together on tray	A first helps C to look at corresponding photo	When C emits sound and looks at objects When C looks at photo within 5 sec after sound	A answers, but does not touch nor give f/d .. A answers, praises, and gives at once	(NOT TRIED YET)
STEP 3: PHOTOS	Objects (f/d) close together, photos far apart on tray	No attempts to activate nor to direct C's gaze	If C vocalizes and looks at photo If C vocalizes and looks at objects	A responds by giving f/d A responds by giving f/d-related comments without giving f/d	(NOT TRIED YET)
PREP. FOR STEP 4	C given Headstick, photos placed on sound-making boxes	A helps C to get the stick to touch the photo	If C vocalizes and looks at photo but without stick touching When stick touches the photo and activates the sound from the box	A answers, but waits with giving A answers, praises and gives at once	(NOT TRIED YET)
STEP 4: POINTING	As above	No activation	When C vocalizes and point with stick, activating the sound-box	A answers, praises and gives at once	(NOT TRIED YET)
STEP 5: SYMBOLS	Photos and headstick as above; but now the objects (f/d) are to be removed out of C's sight	No activation	C is now to vocalize and point at photos without being able to see the objects desired	A responds as above	(NOT TRIED YET)

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OBSERVATION/REGISTRATION OF THE CHILD'S SOCIAL INTERACTION WITH ADULT / OTHER IN DAILY SITUATIONS.

Developed by Helge Kr. Smebye, Ph.D, Institute of Psychology, Univ. of Oslo, Norway, 1984. © H.Kr. Smebye

Name: SAM 3½ YRS ♂ Date: Nov 83 Situation: GIVING THE CHILD THE INITIATIVE OVER HIS FEEDING Obs.: HKS

	I. ARRANGEMENTS: Special positions, organization of environment	II. ADULT / OTHER: ACTIVATION Question/Prompt/Disturbance	III. CHILD: SIGNAL/ACTION Word/Sound/Gaze/Movement	IV. ADULT / OTHER: REACTION Caregiving/Response to child	V. CHILD: ANSWER Response to A/O's reactio
BASELINE:	Cup easily visible, but out of reach; dish placed right in front of child (C)			C was given food and drink by adult (A) without waiting/asking for special signals from C	Meals went generally well, but with varyin rates of head-banging
STEP 1: REACHING TOW. CUP	As above	WATER: A waits with giving water until ...	.. C reaches toward the cup	A answers C and gives him water	C learns this within some weeks
		FOOD: (As before)	Nothing special	A feed C on own initiative	
STEP 2: REACHING & VOCALISING TOW. CUP	As above	WATER: A waits until ..	.. C reaches toward cup and says "Na" ("Na" is the most frequent babble-sound emitted spontaneously)	A answers and gives water	C responds very positively to this. Asks for water in a quiet manner also when the rest of the meal is very troubled
		FOOD: As above	As above	As above	Feeding becomes increasingly troubled - rejects, screams, bites, head-bangs
STEP 3: REACH & VOC TOW. CUP & DISH	Both cup and dish out of reach but within sight; small empty plate right infront of C	WATER: As above	As above	As above	As above
		FOOD: Waits with giving food until ...	.. C reaches toward dish and says "Na"	A moves 2-3 spoonful of food over to C's plate, while answering and praising	Meal is dramatically improved within 10 m after procedure is started. C eats food from his plate with varying help from A
STEP 4: PHOTOS	Objects are to be replaced by photos in a gradual manner (se other side)	A shall now wait until ...	.. C reaches and vocalizes toward photo	A responds by answering and giving what is requested	(NOT TRIED YET)

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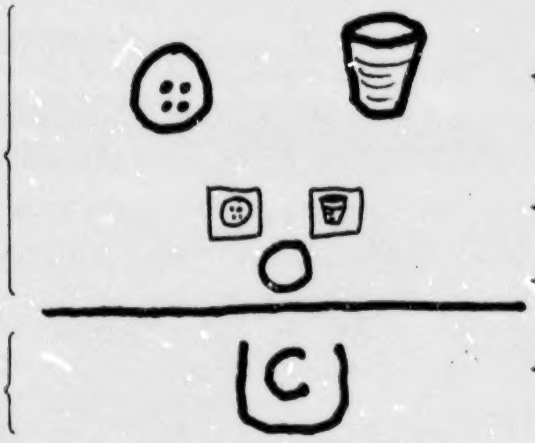
STEPS IN LEARNING TO COMMUNICATE THROUGH PICTURES:

STEP 1:



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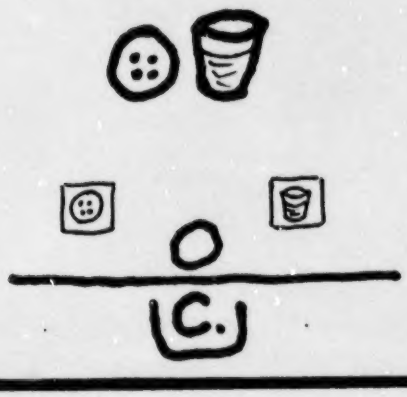

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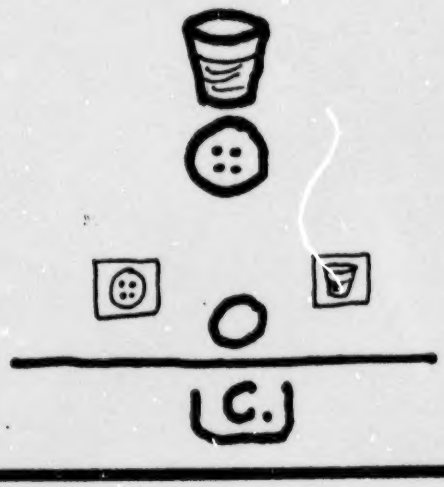

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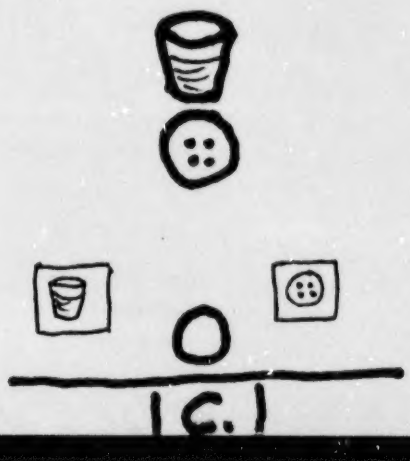

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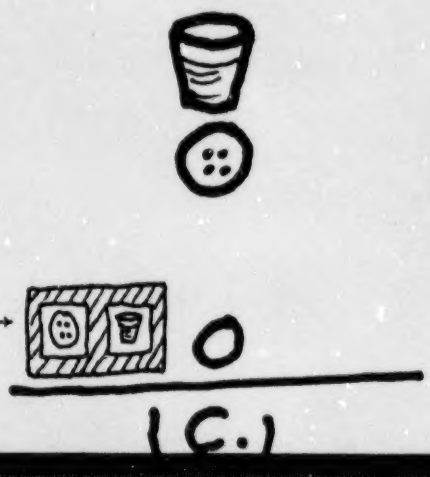

OBSERVATION/REGISTRATION OF THE CHILD'S SOCIAL INTERACTION WITH ADULT / OTHER IN DAILY SITUATIONS.

Developed by Helge Kr. Smebye, Ph.D, Institute of Psychology, Univ. of Oslo, Norway, 1984. © H.Kr. Smebye

Name: SARA 5 YRS 8 Date: Nov 1983 Situation: GIVING THE CHILD THE INITIATIVE DURING CARESSING Obs.: Sev

	I. ARRANGEMENTS: Special positions, organization of environment	II. ADULT / OTHER: ACTIVATION Question/Prompt/Disturbance	III. CHILD: SIGNAL/ACTION Word/Sound/Gaze/Movement	IV. ADULT / OTHER: REACTION Caregiving/Response to child	V. CHILD: ANSWER Response to A/O's reactio
STEP 1: INITIATIVE THROUGH SOUNDS	Child (C) and adult (A) are lying on mattress alongside each other	A tries to make the situation as pleasant as possible, but without touching C nor trying to make her vocalise	Whenever any sound is emitted (except crying) ...	.. A imitates the sound and strokes her in a manner similar to the sound: long sound → long str. short sound → short str. loud sound → heavy str. soft sound → soft str.	C appears to enjoy caressing more when having the initiative smiles and vocalises more, and is more persevering. Gradually: sounds becomes more frequent and varying
STEP 2: INITIATIVE THROUGH BABBLE	As above	As above	Only sounds including consonants are now accepted as signals for stroking	Babble: A imitates and strokes as above Other sounds (no cons.): A only imitates - no touching.	The frequency of babble-sounds is increased - multisyllat sounds emerge
STEP 3: INITIATIVE THROUGH WORDS	As above - in addition A carries with her at every time a puppet-doll in her back pocket out of C's sight	As above	(Generally, procedure continues as above, but in addition:) At irregular intervals C emits this chain of repeated "meaningful word": "Dukken-dukken-dukken" (i.e. "Doll-doll-doll" in Norwegian language)	Whenever this specific chain is emitted, A immediately stops whatever she is doing and brings forth the doll, lets the doll play with C's face for 10-15 sec. (This specific "game" is repeated throughout the whole day on C's initiative exclusively, regardless of context.)	Most of the time (bu not always) C smiles and vocalises when the doll appears. T "game" may be repeat continuously for ½-1 hour several times o one day, and then no at all for a few day in a row.

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